

Abstract

**ENCAPSULATED CONDUCTIVE POLYMER DEVICE AND METHOD OF
MANUFACTURING SAME**

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The present invention relates to encapsulated or insulated devices. In certain environments and applications, it is necessary to protect devices from external agents. The present invention achieves this by providing a device comprising a segment of insulating material having an aperture defined therein. An element of active, for example positive temperature coefficient (PTC), material is received within the defined aperture. The element is substantially covered by a first metal layer on one side and a second metal layer on the opposing side. A first layer of insulating material substantially covers the first metal layer and a second layer of insulating material substantially covers the second layer of metal. A first terminal provides an external electrical connection to the first metal layer and a second terminal provides an external electrical connection to the second metal layer. The first terminal is connected to the first metal layer by a conductive interconnect which passes through the first insulating layer and the second terminal is connected to the second metal layer by a conductive interconnect passes through the second insulating layer. Moreover, the invention provides a method for manufacturing devices in a matrix form using conventional PCB techniques to facilitate the mass production of encapsulated devices. Additionally, the resulting components may be used as either leaded or SMT components in either single device or multiple device configurations in both SIP and DIP packages.

25 **[FIG. 15]**